III. Amendments to the Claims:

1 - 17 (canceled).

18. (Currently amended) A separator for electrochemical systems, comprising:

a first conductive plate having a face and defining a plane; and

a second conductive plate having a face;

wherein each plate includes a series of projections extending outwardly therefrom; wherein each of the projections have a corresponding cavity defined on the opposite side thereof in the face of the respective plate;

wherein when the faces of the first and second plates are brought into an overlapping relationship facing one another, at least a subset of the cavities of the first plate engage a subset of the cavities of the second plate to provide at least one flow path between the first plate and the second plate;

wherein the cavities of the first plate are dissimilar in shape from the cavities of the second plate;

wherein the cavities on the first plate are discrete and spaced from one another in a distributed manner over the face of the first plate defining a region having a periphery, ~~and within~~ such that the cavities on the face of the first plate form no continuous channel entirely within the plane of the first plate and linking one edge of the periphery of the region of the face of the first plate with another edge of the periphery of the region of the face of the first plate; and

wherein the ~~projections and corresponding~~ cavities on the second plate form at least one connecting passage between discrete and spaced apart ~~projections and corresponding~~ cavities on the first plate.

19. (Canceled)

20. (Previously presented) The separator of claim 18 wherein the cavities of the second plate comprise a plurality of generally parallel channels.

21. (Previously presented) The separator of claim 18 wherein the at least one flow path between the first plate and the second plate defines at least one flow path for cooling fluid.

22. (Previously presented) The separator of claim 18 wherein at least one of the projections of the first plate and the projections of the second plate define a flow path for media distribution.

23. (Previously presented) The separator of claim 22 wherein the projections of the first plate define a flow path for distributing a fuel medium on the anode side of a fuel cell.

24. (Previously presented) The separator of claim 22 wherein the projections of the second plate define a flow path for distributing a medium on the cathode side of a fuel cell.

25. (Previously presented) The separator of claim 24 wherein the medium is one of air and oxygen.

26. (Withdrawn) A method of manufacturing a separator for electrochemical systems comprising:

providing a first conductive plate having a face and a second conductive plate having a face;

each plate including a series of projections extending outwardly therefrom, the projections on the first plate being discrete and spaced from one another;

each of the projections having a corresponding cavity defined on the opposite side thereof, the cavities of the first plate being dissimilar in shape from the cavities of the second plate and within the first plate forming no continuous channel linking one edge of the plate with another edge of the plate;

one or more cavities on the second plate forming at least one connecting passage between discrete and spaced apart cavities on the first plate;

bringing the first conductive plate and the second conductive plate into an overlapping relationship, engaging at least a subset of the cavities of the first plate with at least a subset of the cavities of the second plate, thereby providing at least one flow path between the first plate and the second plate; and

joining the first conductive plate and the second conductive plate.

27. (Canceled)

28. (Withdrawn) The method of claim 26 including the step of forming the cavities of at least one plate using at least one of the processes of roller embossing, punching, hydroforming and eddy current embossing.

29. (Withdrawn) The method of claim 26 wherein the step of joining the first conductive plate and the second conductive plate is performed by one of soldering, bonding and laser welding.

30. (Withdrawn) An electrochemical system including:

a first fuel cell, a second fuel cell and a bipolar plate;

said bipolar plate being interposed between the first fuel cell and the second fuel cell;

the bipolar plate comprising:

a first conductive plate having a face; and

a second conductive plate having a face;

wherein each conductive plate includes a series of projections extending outwardly therefrom; wherein each of the projections have a corresponding cavity defined on the opposite side thereof; and wherein the cavities of the first plate are dissimilar in shape from the cavities of the second plate, the cavities of the first plate forming no continuous channel within the first plate linking one edge of the plate with another edge of the plate;

wherein when the faces of the first and second plates are brought into an overlapping relationship, at least a subset of the cavities of the first plate engage a

subset of the cavities of the second plate to provide at least one flow path between the first plate and the second plate;

wherein the projections of the first plate are discrete and spaced from one another and define a flow path for distributing a fuel medium on the anode side of the first fuel cell;

wherein one or more cavities on the second plate form at least one connecting passage between discrete and spaced apart cavities on the first plate; and

wherein the projections of the second plate define a flow path for distributing a medium on the cathode side of the second fuel cell.

31. (Withdrawn) The electrochemical system of claim 30 wherein the electrochemical system is a polymer electrolyte membrane system.

32. (Withdrawn) The electrochemical system of claim 30 wherein the second fuel cell is a self-breathing fuel cell.

33. (Withdrawn) The process of using a separator in an electrochemical system including the steps of:

providing at least one separator having a first conductive plate having a face and a second conductive plate having a face;

each plate including a series of projections extending outwardly therefrom, the projections of the first plate being discrete and spaced from one another;

each of the projections having a corresponding cavity defined on the opposite side thereof, wherein the cavities of the first plate are dissimilar in shape from the cavities of the second plate and, within the first plate, the cavities of the first plate form no continuous channel linking one edge of the plate with another edge of the plate;

one or more cavities on the second plate forming at least one connecting passage between discrete and spaced apart cavities on the first plate;

bringing the first conductive plate and the second conductive plate into an overlapping relationship, engaging at least a subset of the cavities of the first plate with at least a subset of the cavities of the second plate, thereby providing at least one flow path between the first plate and the second plate; and

joining the first conductive plate and the second conductive plate;

installing the at least one separator in an electrochemical system; and

providing a media on a first side of the separator and providing a media on a second side of the separator.

34. (Withdrawn) The process of claim 33 wherein the electrochemical system is a fuel cell.

35. (Withdrawn) The process of claim 34 wherein the fuel cell is a self breathing fuel cell.

36. (Withdrawn) The process of claim 33 wherein the electrochemical system is an electrochemical processor.

37. (Previously presented) The separator of claim 18 wherein the first plate is in contact with and connected to the second plate.

38. (Previously presented) The separator of claim 18, wherein the cavities of the second plate extend linearly and lay next to each other.

39. (New) A separator for electrochemical systems, comprising:

a first conductive plate having a face; and

a second conductive plate having a face;

wherein each plate includes a series of projections extending outwardly therefrom; wherein each of the projections have a corresponding cavity defined on the opposite side thereof in the face of the respective plate;

wherein when the faces of the first and second plates are brought into an overlapping relationship facing one another, at least a subset of the cavities of the first plate engage a subset of the cavities of the second plate to provide at least one flow path between the first plate and the second plate;

wherein the cavities of the first plate are dissimilar in shape from the cavities of the second plate;

wherein the cavities on the first plate are discrete and spaced from one another in a distributed manner over the face of the first plate defining a region having a

periphery, and within such that the cavities on the face of the first plate form no continuous channel linking one edge of the periphery of the region of the face of the first plate with another edge of the periphery of the region of the face of the first plate without the cavities on the second plate; and

wherein the projections and corresponding cavities on the second plate form at least one connecting passage between discrete and spaced apart projections and corresponding cavities on the first plate.